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FEDERAL COMMUNICATIONS COMMISSION  
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Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554

In the Matter of )  
 )  
Allocation of Spectrum Below ) ET Docket No. 94-32  
4 GHz Transferred from )  
Federal Government Use )

COMMENTS

AT&T Corp. ("AT&T") respectfully submits the following comments in response to the Commission's Notice of Inquiry ("NOI"), FCC 94-97, released May 4, 1994.

The NOI seeks comment on uses for the 50 MHz of spectrum which the Secretary of Commerce has preliminarily recommended be made immediately available for reallocation from Federal Government use pursuant to the Omnibus Budget Reconciliation Act of 1993 ("Reconciliation Act").<sup>1</sup> AT&T urges that the 2402-2417 MHz band, one of the three segments comprising those 50 MHz, remain usable by spread spectrum Part 15 devices.

As the NOI points out (¶ 6), this band is part of the 2400-2483.5 MHz band which has long been available for use by spread spectrum Part 15 devices, subject to specific

<sup>1</sup> Pub. L. No. 103-66, Title VI, 107 Stat 379 (1993).

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technical requirements (47 CFR § 15.247).<sup>2</sup> Use of the 2400-2483.5 MHz band by spread spectrum Part 15 devices will likely increase as wireless communication becomes increasingly important. That band is well suited to support communication over wireless local area networks among handheld, portable and desktop computers at data rates up to 2Mb/s.<sup>3</sup>

The lower end of the 2400-2483.5 band is particularly useful for local area network operations. Local area networks operating there would not be seriously impacted by ISM devices, which to a significant extent are microwave ovens operating at a center frequency of 2450 MHz.<sup>4</sup> Such operations produce little interference between 2402 and 2417 MHz. Moreover, that interference occurs only in very brief bursts, permitting local area networks to avoid them and, where avoidance does not occur, to retransmit adversely affected data. Local area networks can share spectrum with amateur operations because the amateurs,

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<sup>2</sup> This usage is secondary to the government use, which will cease upon the reallocation, and to use by Industrial, Scientific and Medical ("ISM") devices (§ 47 CFR 18.301) and amateurs (47 CFR § 97.301).

<sup>3</sup> Applications include computer-aided conferences among the increasingly mobile work force and access to data bases by people on the move.

<sup>4</sup> NOI, ¶ 6.

although operating at higher power, are generally not co-located with the Part 15 devices.

Many other countries also permit frequencies in the 2.4 GHz band to be used for computer-to-computer communications. That band will be used in the new standard (P. 802.11) being developed by the IEEE to enable devices from different manufacturers to interoperate. Maintaining the usefulness of the 2400-2483.5 MHz band in the United States for spread spectrum Part 15 devices will serve the needs of the users, who will be able to carry to other countries the computer they use in their home country. It will also permit manufacturers to achieve economies of scale by making standard products that can be sold in many countries, and thus to offer lower prices to consumers.

Therefore, the Commission should not take any action regarding the 2402-2417 MHz band impairing the usefulness of the 2400-2483.5 band by Part 15 devices. Not permitting any new uses in the 2402-2417 MHz band would insure that the public retains all the benefits of the present allocation to such devices. As an alternative, the Commission could permit new uses in that band capable of operating effectively subject to technical rules that avoid interference between such services and the Part 15 devices. Applying to any new services in the band the one watt power limit and the 8 dBm per 3 kHz power density limit in the

present rules<sup>5</sup> will reduce the likelihood of such interference. In addition, requiring any new services to transmit in short pulses with a few milliseconds between pulses should permit co-existence between such services and Part 15 spread spectrum devices. Finally, the Commission should not add the 2402-2417 MHz band to the list of "restricted bands of operation" into which out-of-band emissions are barred.<sup>6</sup> If that band were so classified, the difficulty of preventing out-of-band emissions from devices operating elsewhere in the 2400-2483.5 MHz band, in a cost-effective way, might well make such operation impractical.

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<sup>5</sup> 47 CFR §§ 15.247(b) and (d).

<sup>6</sup> 47 CFR § 15.205.

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CONCLUSION

The usefulness of the 2400-2483.5 MHz band for spread spectrum Part 15 devices should not be impaired by Commission allocation of the 2402-2417 MHz frequencies to new services.

Respectfully submitted,

AT&T CORP.

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